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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,942	08/24/2000	Brian John Bastable	111869-00113	5468

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BLANK ROME COMISKY & MCCAULEY LLP
THE FARRAGUT BUILDING SUITE 1000
900 17TH STREET NW
WASHINGTON, DC 20006

EXAMINER
CROCKFORD, KIRSTEN ANNE

ART UNIT	PAPER NUMBER
1762	4

DATE MAILED: 12/18/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/622,942	BASTABLE ET AL.	
	Examiner	Art Unit	
	Kirsten Crockford	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *1* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15, 16, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is vague and indefinite because it is not clear whether "containing carboxyl or anhydride groups" refers to only "an acid or acid-anhydride polyolefin resin," or whether the phrase refers to both "a polyester" and "an acid or acid-anhydride polyolefin resin."

Claims 16 and 18 are vague and indefinite because it is not clear how the *non-metallic* chemical coating of step (b) comprises chromium which is a metal.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-15, 17-23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 544 040 A1.

EP '040 discloses a method for coating titanium alloys comprising the steps of: cleaning the substrate (see Example II, page 7); chemically pre-treating the substrate with a primer coating which forms a non-metallic coating comprising an oxyanion (phosphate anion and chromate anion and/or molybdate anion - see page 4, line 23), and applying to this coating a coating of thermoplastic resin to form a protective layer. It is noted that the primer layer has *optional* metallic ingredients. "Non-metallic" is defined by Applicant's specification on page 3 as a coating not comprising a native metal. While EP '040 teaches applying its composition to a titanium alloy substrate instead of a stainless steel substrate, it is noted that EP '040 teaches that titanium alloys are used as a replacement for stainless steel to save weight in airframe/turbine engine applications. It would have been obvious to one having ordinary skill in the art to have used the protective metal coatings of EP '040 on steel substrates with the expectation of successful results since EP '040 teaches that one is a replacement for the other and since the metals would act similarly as a substrate.

As to claim 6, EP '040 teaches that the primer may be applied by spraying in Example I. While EP '040 does not teach application by immersing, the Examiner takes Official notice that immersion is a well known method for applying coatings. If Applicant disagrees, they should so state on the record and the Examiner will provide a reference. It would have been obvious to have used immersion as the means to apply the primer coating of EP '040 with the expectation of successful results since such is conventionally known in the art. As to the residence time for immersing in a coating bath, it would have been obvious for one having ordinary skill in the art to have determined the optimum residence time depending on the desired thickness of the primer layer through routine experimentation in the absence of a showing of criticality. As to claim 12,

since EP '040 does not teach a temperature at which spraying occurs, it is the Examiner's position that one skilled in the art can only assume that spraying occurred at room temperature which meets the limitation of Applicant's claim.

As to claim 15, EP '040 teaches that its primer coating also contains an organic polymer (see page 4, lines 54-55 and page 5, lines 12-17). EP '040 teaches that the resin in the primer layer and top coating layer may be the same; EP '040 teaches using fluorinated ethylene/propylene copolymer as a resin to be used as the top coating layer which is a two-component organic polymer. With respect to claim 17, EP '040 teaches using metal salts of phosphoric acid at page 4, lines 20-22. While EP '040 does not specifically teach the metal salts of claim 17, the Examiner takes Official notice that these are well known metal phosphate salts. If Applicant disagrees, they should so state on the record and the Examiner will provide a reference. It is the Examiner's position that it would have been obvious to one skilled in the art to have used any known metal phosphate salt, including those of claim 17, with the expectation of successful results in the absence of a showing of criticality. As to claim 18, it is noted that the claim reads on having no chromium in the primer layer. As to claim 19, EP '040 teaches that the primer-treated substrate is dried and cured prior to coating the thermoplastic layer thereon.

As to claims 2-5, cold-rolled steel substrates are well known in the art, as is cleaning of steel electrolytically. It would have been obvious for one having ordinary skill in the art to have used cold-rolled steel as the substrate, and to have cleaned it electrolytically, in the invention of EP '040 with the expectation of successful results since such is conventional in the steel coating art. EP '040 also does not disclose the thickness of its metal substrate. It would have been

obvious for one skilled in the art to have selected the thickness of the steel substrate depending on its end use, in the absence of a showing of criticality.

As to claims 21-23, EP '040 teaches that the topcoat thermoplastic layer is applied by spraying. However the Examiner takes Official notice that it is well known in the coating art that thermoplastic resin coatings such as those taught by EP '040 may be applied by extrusion, or as a laminate followed by melting and quenching. If Applicant disagrees, they should so state on the record and the Examiner will provide a reference. It would have been obvious for one having ordinary skill in the art to have applied the thermoplastic coating layer by means of extrusion of lamination in place of by spraying with the expectation of successful results since such are well known methods of applying thermoplastic resin coatings. With respect to claim 28, it would have been obvious for one skilled in the art to have selected the thickness of the thermoplastic resin top layer depending on its end use and the amount of protection needed, in the absence of a showing of criticality.

5. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 544 040 A1 as applied to claims 1-15, 17-23, and 28 above, and further in view of WO 97/35716.

It is noted that U.S. patent 6,099,953 is used as a working translation of WO '716. If Applicant disagrees that this is a proper translation, they should so state on the record. WO '716 is cited for its teachings of improved methods for applying/adhering thermoplastic resins to a metal surface. WO '716 teaches coating with thermoplastic resins including polyethylene terephthalate and polypropylene (see col. 13, lines 1-30 of U.S. patent 6,099,953). Further, WO '716 teaches use of multilayer resin coatings whereby one of the layers is a polyester resin,

which meets Applicant's limitation of a bonding layer. It would have been obvious to have used the thermoplastic resin coatings taught by WO '716 in the thermoplastic coating method of EP '040 with the expectation of providing properties such as heat resistance, corrosion resistance, formability, and adhesion to the metal substrate beneath as taught by WO '716. One would expect successful results since EP '040 broadly teaches use with any thermoplastic resin and is not limited to those listed in EP '040. As to claim 26, it would have been obvious for one skilled in the art to have selected the thickness of the thermoplastic resin "bonding" layer depending on its end use and the amount of protection needed, in the absence of a showing of criticality.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iorio et al. (5,771,940) appears to teach cleaning a steel substrate followed by chemically pre-treating by applying phosphate and/or chromate coatings onto the substrate to promote adhesion of a thermoplastic resin which is applied thereon (see column 8).

US patent 6,238,783 is cited as the equivalent of WO 97/35717. US patent 6,099,953 is cited as the equivalent of WO 97/35716. These reference appear to teach cleaning a metal strip followed by chemically pre-treating the strip by applying hydroxide layers onto the substrate to promote adhesion of a thermoplastic resin which is applied thereon.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten Crockford whose telephone number is 703-306-5461. The examiner can normally be reached on Monday to Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193.

kac
December 17, 2001

SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700